CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.13/NS/CSR-4/810a/Pre Cast Slab/2015-16 13.04.2015

TEST REPORT ON CONCRETE CORE (PRE CAST SLAB)

* Name of Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Name of Agency	:	**Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
* Name of work	:	Improvements to drains & footpath 4th Cross and adjoining roads of Kalyananagara W/s, in Ward o.13, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	BBMP/DZ/AEE/SSD/PR/2015-16 Dated: 08.04.2015
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Pre Cast Slab
Sample Received on	:	08.04.2015
Date of Testing	:	13.04.2015

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	79.00	0.395	2546.48	1.58	0.955	32.15	16.37	17.68	16.89	21.11
2	50.00	80.00	0.403	2565.58	1.60	0.965	32.56	16.58	17.91	17.28	21.60
3	50.00	81.00	0.413	2596.78	1.62	0.960	33.12	16.87	18.22	17.49	21.86

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ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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Job No.: CTCE/BBMP/W.No.13/NS/CSR-4/810a/CUBE/2015-16 22.05.2015

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N. Shivananda,**
No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.

*** Name of the work** : Improvements to drains & footpath 4th Cross and adjoining roads of Kalyananagara W/s, in Ward o.13, in Shettyhalli Sub Division, BBMP, Bangalore.

*** Reference** : BBMP/DZ/AEE/SSD/PR/2015-16 Dated: 08.04.2015

*** Sample ID** : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{15}

Compressive Strength as on : 28th day

Sample Received on : 25.04.2015

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.04.2015	22.05.2015	8.196	365.5	16.24
2	25.04.2015	22.05.2015	8.265	378.2	16.81
3	25.04.2015	22.05.2015	8.390	389.5	17.31

* Information is furnished by the Customer/Representative

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Job No.: CTCE/BBMP/W.No.13/NS/CSR-4/810a/CC Solid Block/2015-16 15.04.2015

TEST REPORT ON SOLID CONCRETE BLOCKS

* Customer : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

* Agency : **Mr. N. Shivananda,**
No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.

* Name of the Work : Improvements to drains & footpath 4th Cross and adjoining roads of Kalyananagara W/s, in Ward o.13, in Shettyhalli Sub Division, BBMP,

Reference : BBMP/DZ/AEE/SSD/PR/2015-16 Dated: 08.04.2015

Sample Received on : 08.04.2015

Date of Testing : 15.04.2015

Size of Blocks : 400mm x 200mm x 200mm

Cross Sectional Area : 80000 mm^2

Technical Reference : IS: 2185 (Part 1) - 2005

No. of Blocks Tested : 08

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	35.26	261.2	3.27	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	34.56	262.5	3.28	
3	Block 3	35.10	263.4	3.29	
4	Block 4	35.90	258.4	3.23	
5	Block 5	34.22	258.9	3.24	
6	Block 6	35.21	260.5	3.26	
7	Block 7	34.85	263.3	3.29	
8	Block 8	35.05	264.5	3.31	

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Job No.: CTCE/BBMP/W.No.13/NS/CSR-4/810a/CC Solid Block/2015-16 : 15.04.2015

TEST REPORT ON SOLID CONCRETE BLOCKS

* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
* Name of the Work	: Improvements to drains & footpath 4th Cross and adjoining roads of Kalyananagara W/s, in Ward o.13, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: BBMP/DZ/AEE/SSD/PR/2015-16 Dated: 08.04.2015
Sample Received on	: 08.04.2015
Date of Testing	: 15.04.2015
Size of Blocks	: 400mm x 150mm x 200mm
Cross Sectional Area	: 60000 mm^2
Technical Reference	: IS: 2185 (Part 1) - 2005
No. of Blocks Tested	: 08

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	25.22	196.2	3.27	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	26.32	197.3	3.29	
3	Block 3	25.95	198.2	3.30	
4	Block 4	26.35	195.8	3.26	
5	Block 5	25.80	194.9	3.25	
6	Block 6	25.93	193.5	3.23	
7	Block 7	26.12	194.6	3.24	
8	Block 8	25.95	198.1	3.30	

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Job No.: CTCE/BBMP/W.No.13/NS/CSR-4/810a/AGG/GR/2015-16 : 10.04.2015

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N. Shivananda,**
No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.

*** Name of Work** : Improvements to drains & footpath 4th Cross and adjoining roads of Kalyananagara W/s, in Ward o.13, in Shettyhalli Sub Division, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/SSD/PR/2015-16 Dated: 08.04.2015

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 08.04.2015

Date of Testing : 10.04.2015

Total Wt. of Aggregates in gms= **10000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.50	95-100	85-100
20	47.70	30-70	0-20
10	22.25	10-35	0-5
4.75	3.75	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No.13/NS/CSR-4/810a/SAND-Gradation/2015-16 : 10.04.2015

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. N. Shivananda,**
No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.

*** Name of Work** : Improvements to drains & footpath 4th Cross and adjoining roads of Kalyananagara W/s, in Ward o.13, in Shettyhalli Sub Division, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/SSD/PR/2015-16 Dated: 08.04.2015

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 08.04.2015

Date of Testing : 10.04.2015

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	93.00	90-100	90-100	90-100	95-100
2.36	75.00	60-95	75-100	85-100	95-100
1.18	56.00	30-70	55-90	75-100	90-100
600 Micron	33.50	15-34	35-59	60-79	80-100
300 Micron	14.00	5-20	8-30	12-40	15-50
150 Micron	3.80	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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AE-13
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Job No.: CTCE/BBMP/W.No.13/NS/CSR-4/810a/CEMENT/2015-16 Date: 10.04.2015

TEST REPORT ON CEMENT

*** CUSTOMER**	:	**Asst. Executive Engineer**, Shettyhalli Sub Division, BBMP, Bangalore.
***AGENCY**	:	**Mr. N. Shivananda,** No.35, 2nd Cross, 1st A Main Road, Defiance Colony, Bagalagunte, Bangalore.
***NAME OF THE WORK**	:	Improvements to drains & footpath 4th Cross and adjoining roads of Kalyananagara W/s, in Ward o.13, in Shettyhalli Sub Division, BBMP, Bangalore.
***REFERENCE**	:	BBMP/DZ/AEE/SSD/PR/2015-16 Dated: 08.04.2015
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	08.04.2015
PERIOD OF TESTING	:	08.04.2015 to 10.04.2015

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	135 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	475 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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